

PATENT COOPERATION TREATY

PCT


INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 10 FEB 2006

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Applicant's or agent's file reference 18062.1-D2788		FOR FURTHER ACTION See Form PCT/PEA/416	
International application No. PCT/EP2004/013159	International filing date (day/month/year) 19.11.2004	Priority date (day/month/year) 21.11.2003	
International Patent Classification (IPC) or national classification and IPC H04Q7/28, H04Q7/38			
Applicant T-MOBILE DEUTSCHLAND GMBH et al			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of five sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 08.06.2005		Date of completion of this report 09.02.2006	
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Rabe, M Telephone No. +49 89 2399-8801	



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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1, 2, 4-8 as originally filed
3, 3a received on 21.09.2005 with letter of 19.09.2005

Claims, Numbers

1-8 filed with telefax on 02.12.2005

Drawings, Sheets

1/2, 2/2 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-8
	No: Claims	
Inventive step (IS)	Yes: Claims	1-8
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Reference is made to the following documents:

- D1:** ETSI TS 143 068 V5.2.0 (2002-12), "Digital cellular telecommunications system (Phase 2+); Voice Group Call Service (VGCS); Stage 2 (3GPP TS 43.068 version 5.2.0 Release 5)
D2: US 2003/0100326 A1

Citations and explanations made in respect of paragraph V:

1. The subject-matter of claims 1 to 8 is **new**, Article 33 (2) PCT, as none of the available prior art documents discloses, when taken alone, all the features of said claims.
2. However, document **D1** (see in particular paragraphs 4.2.1.1, 5.1, 11.3.1.3 and 11.3.8; Figures 1 and 2) discloses, in accordance with the **main** features of **claim 1**, a method for providing active members of a Voice group Call Service with additional information (see in particular lines 1 to 5 of part a) of paragraph 11.3.1.3), wherein the additional information is transmitted in a message (see "notification message" in paragraphs 4.2.1.1 and part a) of 11.3.1.3) on a **common** control channel (see "NCH" in paragraphs 4.2.1.1 and part a) of 11.3.1.3) for a traffic channel of the voice group (see in particular lines 13 to 14, 21 to 23 and 30 to 31 of paragraph 4.2.1.1; lines 7 to 9 of part a) of paragraph 11.3.1.3), wherein the message contains a voice group call reference (see in particular lines 32 to 35 of paragraph 4.2.1.1; lines 4 to 5 of part a) of paragraph 11.3.1.3), wherein a mobile switching center MSC triggers via an additional-information-request message on an A-interface a base station subsystem BSS to send the additional information to the group members (see in particular lines 10 to 12 and 21 to 23 of paragraph 4.2.1.1; lines 7 to 10 of part b) of paragraph 11.3.1.3; see also signalling shown in Figure 2 on page 27), and wherein the BSS sends the additional information on a **common** control channel of all traffic channels where the VGC is ongoing (see in particular lines 13 to 14, 21 to 23 and 30 to 31 of paragraph 4.2.1.1; lines 7 to 9 of part a) of paragraph 11.3.1.3).

The subject-matter of **claim 1** differs from that disclosed in document **D1** merely in

that the additional information is transmitted in a message on an **associated** control channel (**note that** in document **D1**, the message is transmitted on the Notification Channel NCH, which is a common control channel for the transmission of notifications).

However, this distinguishing feature represents a simple technical detail which is well known to the skilled person. In particular, document **D1** (see in particular paragraphs 4.2.1.1 and 11.3.1.3) already discloses the principle of using different types of associated control channels (ie. FACCH and SACCH) for the transmission of information.

The skilled person being aware of the method described in document **D1** and wishing to provide further improvements thereto in terms of efficiency, **would** therefore arrive, by simply using, instead of a specific channel (ie. Notification Channel) as proposed in document **D1**, one of the commonly available associated control channels for the transmission of the message including the additional information, **without** the exercise of inventive skill, at the method corresponding to the subject-matter of claim 1.

The subject-matter of independent claim 1 therefore does **not** involve an inventive step, Article 33 (3) PCT.

3. The same considerations as made in above paragraph 2 relating to lack of inventive step of claim 1 are also valid for **independent claim 8** since claim 8 is based on the same feature combination as claim 1 in terms of a claim relating to a system.

The subject-matter of claim 8 therefore also **does not involve an inventive step**, Article 33 (3) PCT.

4. **Dependent claims 2 to 7** do **not** contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step for the reason that the subject-matter of said claims **either is in principle** directly derivable from the disclosure of document **D1** (see in particular paragraphs 4.2.1.1, 5.1, 11.3.1.3 and 11.3.8; Figure 1), **or** relates to minor technical details which

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represent general knowledge of the person skilled in the field of group call communication techniques.

Dependent claims 2 to 7 therefore **do not** meet the requirements of Article 33 (3) PCT.

5. The subject-matter of claims 1 to 8 is **susceptible of industrial application**, Article 33 (4) PCT.

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stations being service subscribers for that Voice Group Call in one cell listens to the common downlink. All mobile stations of the listening service subscribers in one cell only listens to the same common downlink (voice group call channel). Of course it is possible to change the talker at any time, so that one of the listeners of the group becomes the talker and the previous talker becomes a listener.

The standards of Voice Group Call Service are specified in the technical specification ETSI TS 143 068, V5.2.0, December 2002: "Digital cellular telecommunication system (Phase 2+); Voice Group Call Service (VGCS); Stage 2; 3GPP TS 43.068 version 5.2.0 Rel. 5.

US 2003/0100326 A1 relates to a group location and route sharing system for communication units in a trunked communication system, wherein the communication units are engaged in a group voice call communication. Subscription and location data can be sent as a supplementary information to the group voice call communication by using an underlying packet transport layer.

It is the object of the invention to enhance the conventional voice group call service by providing an additional communication service without changing the general architecture of the communication network.

This object is achieved by providing a method and a communication system as disclosed in the independent claims.

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Other features which are considered to be characteristic for the invention are set forth in the appended claims

5 The additional information for Voice Group Call Service (VGCS) is designed to provide all active members of a VGCS in parallel, i.e. simultaneous to an ongoing voice group call, with additional information, for example the tactical addresses of the current talker. The information contained here may have a text-oriented or binary-oriented character.

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The transmission of the additional information shall be realised only in acknowledged mode and is sent on the Slow Associated Control Channel (SACCH), which represents an associated control channel for the downlink traffic channel
15 of the voice group call.

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Patent claims

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1. Method for providing active members of a Voice Group
Call Service, VGCS, with additional information,
characterized in that the additional information is
10 transmitted in a message on an associated control
channel for a traffic channel of the voice group,
wherein the message contains a voice group call ID,
VGC-ID, or a voice group call Reference, VGC reference,
wherein a mobile switching center, MSC, (12) triggers
15 via a message, additional-information-request-message,
on a A-interface a base station subsystem, BSS, (20) to
send the additional information to the group members,
and wherein the BSS (20) sends the additional
information on a slow associated control channel,
20 SACCH, of all traffic channels, TCHs, where the VGC is
ongoing.

2. Method according to claim 1, characterized in that the
message is sent on a resource controlling SCCP-
25 connections.

3. Method according to claim 1, characterized in that the
message is sent on a controlling SCCP-connection of the
VGC without addressing a meant VGC.

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4. Method according any of claims 1-3, characterized in
that the additional information is not provided in

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radio cells which are belonging to the VGC-area but a VGC-channel is not established.

- 5 5. Method according any of claims 1-4, characterized in that the additional information is sent on a controlling SCCP-connection, wherein the BSS (20) is responsible for sending the additional information on all SACCHs for this VGC.
- 10 6. Method according any of claims 1-5, characterized in that after having sent the additional information, the BSS (20) provides an acknowledge information to the MSC (12) that the additional information was sent to mobile stations, MSs, (22, 24).
- 15 7. Method according any of claims 1-6, characterized in that in order to give an indication that the additional information was at least received by a current talker (22), he sends an acknowledgement on a Uplink-SACCH for this VGC.
- 20 8. System for providing members of a Voice Group Call Service, VGCS, with additional information, comprising: signal processing units for speech transmission purposes in combination with signal processing units for dedicated text-and/or binary signal transmission, characterized in that the additional information contains a voice group call ID, VGC-ID, or a voice group call Reference, VGC reference, and a mobile switching center, MSC, (12) is connected via an A-interface to a base station subsystem, BSS, (20) for sending the additional information to the group members
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via a message, additional-information-request-message,
wherein the additional information is sent on a slow
associated control channel, SACCH, of all traffic
channels, TCHs, where the VGC is ongoing.

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